

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) An antenna device for a portable radio communication device operable in at least a first and a second frequency band, the antenna device comprising:

a first electrically conductive radiating element ~~(10; 10'; 10''; 110)~~ having a feeding portion ~~(12; 112)~~ connectable to a feed device (RF) of the radio communication device;

a second electrically conductive radiating element ~~(20; 20'; 20''; 120)~~ having a grounding portion ~~(22; 122)~~ connectable to ground;

a controllable switch ~~(30; 130)~~ **arranged connected** between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, ~~[[a]]~~ **the** state of the switch being controlled by means of a control voltage input (V_{Switch});

a first filter ~~(16; 116)~~ **arranged connected** between the feeding portion ~~(12; 112)~~ and the control voltage input (V_{Switch}), wherein the first filter is arranged to block radio frequency **signals; signals,**
characterized by

a high pass filter ~~(32; 132)~~ connected between said first and second radiating elements, which high pass filter **provides an RF bridge between the first and second radiating elements and thereby** allows RF signals to pass, **so that the first and second radiating elements are operable as one single radiating element.**

~~wherein said first and second radiating element are generally planar and arranged at a predetermined distance above a ground plane (70).~~

2. (Currently Amended) The antenna device according to claim 1, wherein the controllable switch ~~(30; 130)~~ comprises a PIN diode.

3. (Currently Amended) The antenna device according to claim 1, wherein the first filter ~~(16; 116)~~ is a low pass filter.

4. (Currently Amended) The antenna device according to claim 1 wherein the second radiating element ~~[(20)]~~ is connected directly to ground.

5. (Currently Amended) The antenna device according to claim 1, ~~claims 1-4,~~ wherein the first and second radiating elements ~~(10, 20; 110, 120)~~ together with the high pass filter ~~(32; 132)~~ have a general C-shape.

6. (Currently Amended) The antenna device according to claim 1, wherein the high pass filter ~~[(32)]~~ comprises a conductive sheet ~~[(34)]~~ provided under part of the two radiating elements ~~(10, 20)~~, thereby providing the RF bridge.

7. (Currently Amended) The antenna device according to claim 6, comprising a multi-layer flex film wherein the radiating elements ~~(10, 20)~~ are provided on one side of the flex film and the conductive sheet ~~[(34)]~~ is provided on the other side of the flex film.

8. (Currently Amended) The antenna device according to claim 1, wherein the high pass filter ~~[(32)]~~ comprises a meandering interface between the first and second radiating elements ~~(10', 20')~~.

9. (Currently Amended) ~~The antenna device according to claim 1, comprising~~
An antenna device for a portable radio communication device operable in at least a first and a second frequency band, the antenna device comprising:
a first electrically conductive radiating element having a feeding portion connectable to a feed device of the radio communication device;

a second electrically conductive radiating element having a grounding portion connectable to ground, said first and second radiating elements are generally planar and arranged at a predetermined distance above a ground plane;

a controllable switch arranged between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of a control voltage input (V_{Switch});

a first filter arranged between the feeding portion and the control voltage input (V_{Switch}), wherein the first filter is arranged to block radio frequency signals;

a high pass filter connected between said first and second radiating elements, which high pass filter allows RF signals to pass;

a third radiating element ~~(140)~~ together with a second control input (V_{switch2}) connected to the third radiating element via a low pass filter ~~(142)~~, wherein the third radiating element is connected to the second radiating element ~~(120)~~ by means of a second switch; and (144), and further comprising

a second grounding portion ~~(114)~~ arranged on the first radiating element ~~(110)~~ which is connected to ground via a second high pass filter ~~(118)~~ blocking DC signals, and

a low pass filter ~~(124)~~ arranged between the second radiating element ~~(120)~~ and ground.

10. (Currently Amended) A portable radio communication device, comprising a generally planar printed circuit board and an antenna device connected to a feed device (RF) with electronic circuits provided for transmitting and/or receiving RF signals, and a ground device, wherein the antenna device comprises:

a first electrically conductive radiating element ~~(10; 10'; 10''; 110)~~ having a feeding portion ~~(12; 112)~~ connectable to a feed device (RF) of the radio communication device;

a second electrically conductive radiating element ~~(20; 20'; 20''; 120)~~ having a grounding portion ~~(22; 122)~~ connectable to ground;

a controllable switch ~~(30; 130)~~ arranged between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, a state of the switch being controlled by means of a control voltage input (V_{Switch});

a first filter ~~(16; 116)~~ arranged between the feeding portion ~~(12; 112)~~ and the control voltage input (V_{Switch}), wherein the first filter is arranged to block radio frequency **signals; signals,**
characterized by

a high pass filter connected between said first and second radiating elements, which high pass filter **provides an RF bridge between the first and second radiating elements and thereby** allows RF signals to pass, **so that the first and second radiating elements are operable as one single radiating element.;**

~~wherein said first and second radiating element are generally planar and arranged at a predetermined distance above a ground plane.~~

11. (Original) The portable radio communication device according to claim 10, wherein

the communication device is a foldable phone;

a control voltage applied to the control voltage input (V_{Switch}) is low when the communication device is folded; and

the control voltage applied to the control voltage input (V_{Switch}) is high when the communication device is unfolded;

whereby the antenna device operates as a dual band antenna with essentially constant resonance frequencies irrespective of the operating mode of the communication device.

12. (Original) The portable radio communication device according to claim 10, wherein

a control voltage applied to the control voltage input (V_{Switch}) is low when the communication device operates in a transmit mode; and

the control voltage applied to the control voltage input (V_{Switch}) is high when the communication device operates in a receive mode.

13. (New) The antenna device according to claim 1, comprising a third radiating element together with a second control input (V_{switch2}) connected to the third radiating element via third filter being a low pass filter, wherein the third radiating element is connected to the second radiating element by means of a second switch, and further comprising a second grounding portion arranged on the first radiating element which is connected to ground via a second high pass filter blocking DC signals, and a fifth filter being a low pass filter arranged between the second radiating element and ground.

14. (New) The antenna device according to claim 1, wherein the high pass filter comprises a capacitor.

15. (New) The antenna device according to claim 1, wherein said first and second radiating elements are generally planar and arranged at a predetermined distance above a ground plane.

16. (New) The antenna device according to claim 1, wherein at least one of the first and second radiating elements includes at least a portion bent to conform with a casing of the portable radio communication device in which the antenna device is mounted.

17. (New) The portable radio communication device according to claim 10, wherein the high pass filter comprises a capacitor or a meandering interface between the first and second radiating elements.

18. (New) The portable radio communication device according to claim 10, wherein the high pass filter comprises a conductive sheet provided under part of the two radiating elements, thereby providing the RF bridge.

19. (New) The portable radio communication device according to claim 10, wherein said first and second radiating elements are generally planar and arranged at a predetermined distance above a ground plane.

20. (New) The portable radio communication device according to claim 10, wherein at least one of the first and second radiating elements includes at least a portion bent to conform with a casing of the portable radio communication device in which the antenna device is mounted.